ID-07 CIP

# COFFEE PRESS

## Related Application

This application is a continuation-in-part of pending U.S. Serial No. 10/651,791, filed August 29, 2003.

## Field of the Invention

The present invention relates to presses for coffee, tea or the like, and, in particular, to presses having an open top container with preferably transparent side wall portions and with associated bottom and top protective and enforcement portions, and a reciprocating plunger assembly associated with the container.

## Background of the Invention

Portable, hand-operable brewing/filtering devices or coffee presses have been available for many years. Such an apparatus typically includes a container having an openable top and side walls having a uniform internal cross-section. The top is provided with a lid that receives a slidable rod which is axially reciprocable relative to the container. The rod has a handle at its upper end and a piston at its lower end. The rod and the piston with the lid comprise a plunger assembly. When the rod is reciprocated after hot water and ground coffee or tea leaf fragments have been charged into the container, fresh coffee or tea is produced in the container. Various embodiments and methods of use have been described. Commonly, an embodiment includes means for filtering to separate the residual coffee grounds or the tea leaf fragments from the brewed coffee or tea.

One problem with prior art coffee presses has been that the user cannot adequately observe the status of the beverage being brewed in the container. Although brewing status can be estimated by elapsed brewing time or by visually observing the color of a brew, with the characteristically opaque prior art coffee press containers, brew color cannot be adequately observed even if the associated plunger assembly is removed from the container. To overcome this problem, a

brewing apparatus having a container with transparent portions would be desirable, but such a container has sometimes been inadequate because either it tends to be fragile and easily broken during use, or it has transparent portions with edge regions that are not watertight so that undesirable leakage occurs from the container.

Another problem with prior art coffee presses is that, after a brewing operation, dispensing of the brewed and filtered beverage from the container is sometimes difficult to achieve in a simple, quick, effective and reliable manner. For example, it may be necessary to remove the lid or change, alter or even substitute components of the plunger assembly before the beverage can be dispensed from the container.

It would also be desirable to provide a coffee press with an improved openable handle structure that is easy and convenient to removably associate with an object or to grasp with a hand, provides an improved ability to hook over and disengageably connect to a support member (for example, a strap, handle, ring or the like), and provides a secure association with such a support member.

There is a need for an improved coffee press structure that provides these benefits and overcomes these and other problems. The apparatus achieved by the present invention accomplished those purposes and provides a new and very useful coffee press structure.

**Summary of the Invention**

The present invention provides a coffee press structure having an improved container with transparent side wall portions and an improved plunger assembly, preferably in combination with an improved openable handle structure.

In one aspect, the container has transparent side wall portions that are preferably cross-sectionally cylindrical, and that are associated exteriorly with a combination of (a) respective cap-like fixed bottom and detachable top members, and (b) a cage-like structure having longitudinally extending, circumferentially spaced stud or strap portions that are end interconnected with respective and upper and lower circumferentially extending band portions. The strap portions and the

band portions extend over and adjacent to areas of the transparent side wall portions of the container that are between the top and bottom cap-like members. The cap-like bottom and top portions coact with the strap and band portions and the portions cooperate to enclose partially, protect and reinforce the transparent side wall portions of the container structure. The resulting container structure is surprisingly rugged and durable, yet is easily cleansed and is reusable indefinitely.

In another aspect, the present invention provides a new and very useful handle structure for the container. The main handle body extends longitudinally and exteriorly along the container and has an upper end portion that is connected preferably integrally to a portion of the upper band. The handle also has an open lower end portion.

A link member is provided that is pivotably associated either with the lower band portion or with the handle lower end portion. The link member is spring biased so that its open end portion is normally in a disengageably engaged relationship with the opposed but adjacently spaced one of either the handle lower end portion or the lower band portion. The interrelationship between components is such that the lower end portion of the handle relative to the container are normally in a closed relationship, but, when a force or a pressure is applied upwardly and longitudinally against an exterior surface portion of the link member, the open end portion of the link member becomes disengaged from the associated engaged one of either the handle lower end portion or the lower band portion, thereby to permit the lower end portion of the handle to fit over and connect with an object. After release of the pressure or force, the link member pivots back to its starting position.

Preferably, a cooperating engaged but disengagable relationship is achieved between the pivotable link member open end portion and normally engaged adjacent the portion of either the handle open end or the lower band, as the case may be. The engaged relationship is variously achievable, but a present preference is to provide a stud-like extension on the open end portion of the link member and a cooperating mating stud-receiving depression defined in the handle open lower end portion or in the lower ring portion. Such an engaged relationship stabilizes the association between these respective components when they are

engaged.

In a more preferred embodiment, the stud-like extension has a cross member located adjacent its outer end, thereby providing a stud-like extension having a T-configuration, and the stud-receiving depression is similarly correspondingly configured to receive such T-configured stud-like extension.

In another aspect, the present invention provides a new and very useful plunger assembly for a coffee press structure. The plunger assembly comprises, in combination, a lid, a rod that is reciprocatable relative to the center of the lid, and a piston at the rod lower end. Conveniently and preferably, the rod has a handle at its upper end. The piston has a perimeter that is adapted to sealingly but slidably engage inside wall surface portions of the container side wall regions. Also, the piston includes mid-regions having screen means adapted to permit fluid flow therethrough yet provide a filter for catching and retaining on one side thereof coffee grounds or tea leaf fragments present in the container during fluid movements in the container and reciprocal movements of the rod. A handle joined to the rod opposite end portion is adapted to be adjacent to, and to be nestably received in, upper surface portions of the lid when the rod is fully extending into and through the lid. The lid had a spout defined therein. The need to change, or exchange, plunger assembly components before dispensing of filtered brew from the container is thus avoided.

In a preferred embodiment of the plunger assembly, the handle at its central portion adjacent to the rod includes an outwardly extending opposed fixed pair of keys which are each adapted to longitudinally extend slidably through respective ones of a fixed pair of keyways defined in the lid. The keys are longitudinally adjacent to, but downwardly spaced from, the handle by a distance equal to the local thickness of the lid. When the rod is moved to a position where the associated handle is adjacent to the lid, the keys extend into the keyways. When the handle is then rotated a predetermined limited number of degrees, the keys correspondingly rotate over adjacent lid undersurface portions and thereby engage and lock the rod and the handle relative to the lid with the piston being located at its maximum depth inside the container. With the handle thus engaged and locked with the lid, a filtered brew in the container can then be decanted from a

spout defined in the container.

In another preferred embodiment of the plunger assembly, the lid is provided with a spout and with a spout valve which is opened and closed through limited rotational movement of the handle of the plunger rod when the handle is adjacent to the lid. The handle when adjacent to the lid is preferably nestably received in a central depression in the lid.

Other and further objects, aims, features, purposes, advantages, embodiments, variations and the like will become apparent to those skilled in the art from teachings of the present invention taken with the accompanying drawings and the appended claims.

**Brief Description of the Drawings:**

In the drawings:

FIGURE 1 is an environmental perspective view of one embodiment of the inventive coffee press, the coffee press comprising a container assembly in illustrative combination with a plunger assembly;

FIGURE 2 is a side elevational view of one side of the FIGURE 1 embodiment;

FIGURE 3 is a top plan view of the FIGURE 1 embodiment;

FIGURE 4 is a bottom plan view of the FIGURE 1 embodiment;

FIGURE 5 is a view similar to FIGURE 2 but with the cap removed. and with handle closing link opened;

FIGURE 6 is a perspective view similar to FIGURE 5 with the cap removed, the handle closing link closed, and the handle, rod, and piston subassembly elevated relative to the lid;

FIGURE 7 is a top plan view of the FIGURE 5 embodiment;

FIGURE 8 is a bottom plan view of the FIGURE 5 embodiment;

FIGURE 9 is a fragmentary detail perspective view showing the handle closing link in separated, adjacent relationship relative to the lower open end of the handle;

FIGURE 10 is a detail view showing the open end of the handle closing link;

FIGURE 11 is a detail view showing the handle closing link in side elevation;

FIGURE 12 is a fragmentary detail perspective view showing the handle closing link and the lower end of the handle with the handle-closing link being in an open position;

FIGURE 13 is an environmental perspective view of the plunger assembly embodiment of the inventive coffee press embodiment of FIGURE 1 and FIGURE 6, the handle, rod and piston subassembly being elevated relative to the lid;

FIGURE 14 is a perspective view showing the bottom side of the lid and the bottom side of the piston;

FIGURE 15 is a side elevational view of the embodiment shown in FIGURE 14;

FIGURE 16 is a view similar to FIGURE 15 but with the embodiment rotated 90°, with a portion of the rod being broken away, and with the piston being shown in an exploded format;

FIGURE 17 is an exploded perspective view of the FIGURE 1 embodiment;

FIGURE 18 is a vertical axial sectional view through the lid region of an alternative embodiment of the plunger assembly, this embodiment including a spout valve;

FIGURE 19 is a vertical axial sectional view through the top cap of the FIGURE 1 embodiment;

FIGURE 20 is an exploded view of the top cap of the FIGURE 1 embodiment;

FIGURE 21 is a fragmentary view of a bottom region of the vessel incorporated into the FIGURE 1 embodiment;

FIGURE 22 is an exploded perspective view of the plunger assembly embodiment shown in FIGURE 18;

FIGURE 23 is an exploded perspective view of the handle and rod subassembly shown in FIGURE 22;

FIGURE 24 is a fragmentary vertical sectional view through the lid

and valve assembly of the FIGURE 18 embodiment;

FIGURE 25 is a another fragmentary vertical sectional view through the lid of the FIGURE 18 embodiment; and

FIGURE 26 is a further fragmentary vertical view through the lid of the FIGURE 18 embodiment.

**Detailed Description**

Referring to the Figures, there is seen an embodiment 50 of a coffee press of the present invention. The press 50 includes a housing or container assembly 51 and a plunger assembly 52. The container or housing assembly 51 comprises a cylindrical vessel 53 having generally cylindrical side walls 54, a closed bottom 55, and an open top mouth 56 whose exterior, adjacent lip regions 57 are threaded. The vessel 53 is preferably comprised of a unitarily molded, transparent molded plastic. Various plastics are suitable and preferably are impact resistant and also heat resistant both for purposes of holding heated aqueous liquids, like coffee or tea, and for purposes of washing the press 50 in an automatic dishwasher or the like. Examples of suitable plastics include polycarbonates, various polyacrylics, certain styrenic polymers, and the like, as those skilled in the art will readily appreciate.

The base or lower portion of the vessel 53 is associated with an overfitting, unitarily preformed metal cap 59 that is preferably comprised of stainless steel and that has cylindrical side walls 60 and a flattened bottom 61. The cap 59 can be variously mounted to the vessel 53. Adhesive means can be used. Preferably, the bottom 61 is provided with a slightly recessed central portion relative to its perimeter portion. While various mechanical means or adhesive means can be employed to mount the bottom cap 59 over the vessel 52 closed bottom 55, the present preference is to extend perpendicularly through the bottom portion a plurality (preferably three) of symmetrically equally spaced short machine screws 62 which are each threadably engaged with exteriorly projecting, local thickened regions 63 preliminarily provided by molding in the bottom 55. Thereafter, with the screws 62 engaged with the bottom 55, a flat rubber disk 64 is preferably bonded in and upon the recessed portion, if present, of the bottom 55 by

means of an adhesive (conventional, not detailed). This disk 64 is preferably at least thick enough to support the press 50 in an upright position without outer perimeter portions, if present, of bottom 55 contacting a supporting flat surface (not detailed).

An exterior lip 57 circumferentially extends around the top mouth 56 and is threaded circumferentially so as to be engageable with an overfitting top cap 66. A preferred structure for cap 66 is shown in Figs. 19 and 20. Cap 66 includes exteriorly a unitarily preformed metal cup 67 that is preferably comprised of stainless steel and that has cylindrical side walls 68 and a flattened top 69. Inserted into the interior of the cup 67 is a liner 71 that is comprised preferably of a heat resistant molded plastic, such as a polypropylene or the like. The liner 71 preferably includes a thickened circumferentially extending terminal edge region 72, adjacent cylindrical side portions 73, inwardly sloping upper side walls 74, and a top plate 75 that is somewhat elevated relative to the side walls 74 by a longitudinally short, cylindrical extension 76. The dimensions of liner 71 are such that the side portions 73 slidably engage inside wall surface portions of the side walls 68 and the top plate 75 abuts against inside surface portions of the top 69. Adjacent the edge region 72, interior circumferentially extending surface regions are threaded (see Fig. 19, for example) and are adapted to threadably engage the exteriorly threaded lip 57 of vessel 53. Preferably, portions of the liner 71 that contact portions of the cup 66 are bonded thereto by an adhesive (not shown, conventional).

The cylindrical side wall 54 surfaces are engaged, preferably slidably, with the cage-type support structure 78. The structure 78 includes a plurality (preferably 4) of circumferentially preferably equally spaced longitudinally extending flattened strip or stud portions 79 and an upper and lower circumferentially extending ring or flattened band portions 80 and 81, respectively. The stud portions 79 and the band portions 80, 81 extend over and are adjacent to areas of the transparent side wall portions 54 and cooperate with the cap-like bottom and top portions. Various arrangements can be used, but it is presently preferred for the stud portions 79 to be integrally formed at their lower ends with the lower band 81, for the upper band 80 to be formed of an upper band portion 80a

and a lower, longitudinally shorter adjacent lower band portion 80b, and for the stud portions 79 to be integrally formed at their upper ends with the lower band portion 80b of the upper ring 80. The cage support structure 78 is slidably engaged longitudinally over the side walls 54. The bottom cap 59 and the top cap 66 coact with the cage support structure 78 and the components function together to enclose partially, protect and reinforce the transparent side wall portions 54 and bottom 55. The resulting housing or container structure 51 is surprisingly rugged and durable, yet is easily cleansed and is reusable indefinitely.

The upper circumferentially extending edge of the upper band 80 is conveniently provided with a gasket member 83 that can also serve as a decorative colored trim ring, if desired. When the cap 66 is fully threadably engaged with the mouth region 56 of the vessel 53, the edge region 72 can seat against the gasket member 83. A watertight relationship between the mouth 56 and the cap 66 is thus achieved.

In another aspect, the present invention provides a new and very useful cooperative assembly of handle structure 85 for the container 51. The main handle body 85a extends longitudinally and exteriorly adjacent to but spaced from the sides 54 along the container 51. The upper end portion 85b of handle 85 is connected preferably integrally by molded plastic to the upper band 80 in a butt-type connection. For structural rigidity, the handle structure 85 can preferably include a metal core (not shown), if desired. The handle 85 has an open lower end portion 85c.

A link member 87 is provided that is pivotably associated at one end thereof either with a portion of the lower band 81 or with a portion of the handle lower end portion 85c. The link member 87 is spring biased by a coiled spring 88 that is preferably disposed about the pintle 89 over which one end of the link member 87 pivots. The pintle 89 extends through either (a) a stub projection 90 on the lower band 81 for mounting one end of the link member 87 thereto, or (b) a terminal end region of the lower end portion 85c of the handle 85 for mounting one end of the link member 87 thereto, as the case may be. It is presently preferred for the lower band 81 to be formed with a stub projection 90 regardless of whether or not the link member 87 pivots relative to the stub projection or relative to the lower

end portion 85c of the handle 85. The opposite or open end portion of the link member 87 is normally in an disengagably engaged relationship with the opposite one of either the handle lower end portion 85c or the lower ring or band portion 81, as the case may be. The interrelationship between components is such that, when a force or a pressure is applied upwardly and longitudinally against an exterior surface portion of the link member 87, the open end portion of the link member 87 pivots away and becomes disengaged from the associated one of either the handle lower end portion 85c or the lower band portion 81. When the link member 87 is in the open configuration, the lower end portion 85c of the handle 85 is open and adapted to fit over and connect with an object, such as a strap, handle, ring, or the like, as those skilled in the art will readily appreciate. After release of the pressure or force, such as many occur after the object has moved passed the link member 87 and is located between the handle main portion 85a and adjacent portions of the cylindrical sides 54, the link member 87 pivots back to its starting or closed position.

Preferably, a cooperating engaged but disengagable relationship is achieved between the link member 87 open end portion and the portion of either the handle open end 85c or the lower band 81 or stub projection 90 thereof with which the link member 87 open end portion is normally yieldingly engaged by the spring biasing. The engaged relationship is variously achievable, but a present preference is to provide a stud-like extension 92 on the open end portion of the link member 87 and also a cooperating mating stud-like receiving depression 91 defined in either the handle 85 open lower end portion 85 or in the lower band portion 81, as the case may be. Such an engaged relationship between extension 92 and depression 91 stabilizes the association between these respective components when engaged and makes the associated engagement resistant to a laterally applied force that might tend to separate these components.

In a more preferred embodiment, the stud-like extension 92 is defined by having an integrally formed a leg cross-member adjacent to its outer end, thereby providing a stud-like extension 93 having a T-configuration, and the stud-receiving depression 94 is similarly correspondingly configured. Other configurations are also possible.

In another aspect, the present invention provides a new and very useful plunger assembly 52 for a press structure. The plunger assembly 52 comprises, in combination, a lid 97 and a rod 98 that is reciprocatable perpendicularly relative to the center of the lid 97. The rod 98 has a handle 99 at its upper end and a piston 100 at its lower end. The handle 99 and the piston 100 conveniently are each threadably associated with a respective different opposed end portion of the rod 98.

The piston 100 is here illustratively but preferably comprised of a pair of rings 101 and 102 which are each comprised of a durable, heat resistant, relatively dimensionally stable, molded plastic. Each ring 101 and 102 has an outer perimeter defining portion 103 and a pair of diametrically opposed interconnecting cross-braces 104, 105. The rings 101 and 102 are configured so as to permit them to engage axially with one another with (a) a fine filter screen 106 comprised of stainless steel or the like extended transversely across and therebetween, (b) a threaded center sleeve member 107 axially centered therebetween for threadable engagement with one end of the rod 98, and (c) a flexible soft plastic ring seal 108 extending circumferentially in a groove 109 defined by and extending circumferentially about the rim edge of the assembled rings 101, 102. The ring seal 108 is adapted to make a continuous but slidable engagement with adjacent interior surface portions of the cylindrical sides 54 when the piston 100 is positioned diametrically across the interior of the cylindrical vessel 53. With the screen 106 and the ring seal 108 in position, the rings 101, 102 are bonded together by heat sealing, an adhesive, or the like. The screen 106 as mounted between the rings 101, 102 is adapted to permit fluid flow therethrough yet provide a filter for catching and retaining on one side thereof coffee grounds, tea leaf fragments, or the like that may be present in the container 51 during fluid movements in the container 51 including movements induced by reciprocal movements of the rod 98.

The lid 97 is provided with an edge adjacent spout 111 through which the liquid contents in the housing 51 may be dispensed as desired by a user. The handle 99 as joined to the rod 98 is preferably adapted to be adjacent to, and nestably received in, central, upper surface, concave portions 110 of the lid 97 when the rod 98 is fully extending into and through the lid 97 with the rod 98

length being prechosen to reach down with the attached piston 100 to a location that is near the interior bottom region of the vessel 53. When a brewing operation in the vessel 53 is completed by a user, the need to change, or exchange, components before dispensing of filtered brew is thus avoided.

In a preferred embodiment of the plunger assembly 52, the handle 99 adjacent to its lower side and at its central portion adjacent to the rod 98 includes an outwardly extending opposed fixed pair of keys 112 (see Fig. 22) which are each adapted to slidably and longitudinally extend through respective ones of a fixed pair of keyways 114 defined in the lid 97. The keys 112 are longitudinally adjacent to, but downwardly spaced from, the handle 99 by a distance equal to the local thickness of the lid 97. When the rod-associated handle 99 is moved downwardly into a location adjacent to the lid 97, the keys 112 extend into and through the keyways 114. When the handle 99 is then rotated a predetermined limited number of degrees, preferably in the range of from about 15 to about 45 degrees or more, the keys 112 correspondingly rotate over or relative to the lid 97 undersurface and thereby engage the lid 97 and lock the rod 98 and the handle 99 relative to the lid 97 with the piston 100 being located at its maximum depth inside the container 51. With the handle 99 thus lockingly engaged with the lid 97, a filtered brew in the container can then be decanted from the spout 111 defined in the lid 97.

In another preferred embodiment of the plunger assembly 52 (shown in Figs. 18 and 22, for example), the lid 97 is provided both with the spout 111 and also with a spout valve assembly 115 which is opened and closed through a similar limited rotational movement of the handle 99 on the plunger rod 98 when the handle 99 is adjacent to the lid 97. The handle 99 when adjacent to the lid 97 is preferably nestably received in a central depression 110 in the lid 97. In this embodiment, the keys 112, the keyways 114 and the component relationships above indicated are generally retained, but the lower outside circumferential edge portions of the lid 97 are smooth in contrast to the multiple ribs 141 provided in the lid 97 shown in Figs. 13-16. The ribs 141 aid in restricting escape of liquid from the interior of the container 51 when the lid 97 is inserted slidably into and engaged with adjacent inside surfaces defining the mouth 56.

The structure of the spout valve assembly 115 and its association with the lid 97 of a plunger assembly 52 is illustrated, for example, in Figs. 18 and 22-26. A circular valve plate 117 has a surface configuration that permits the plate 117 to be received into and to rest against the underside of the top region of the lid 97. The plate 117 has a central aperture 119 and connected opposed keyways 118 that are defined therethrough. The rod 98 is extended through the lid 97 center and through the aperture 119 and the rod 98 is slidable and rotatable relative to the lid 97 and the valve plate 117. When the handle 99 is located adjacent to the lid 97 and the keys 112 have been extended through the keyways 114, the keys 112 engage the keyways 118 of the valve plate 117 and the valve plate 117 can thus be rotated relative to the lid 97 by turning the handle 99.

As the valve plate 117 fits against the lid 97, each one of a pair of opposed stops 121 defined on the under surface of the lid 97 engages a different one of a pair of arcuate channels 122 defined in the valve plate 117. Rotational movement of the plate 117 is thus controlled and limited by the available movement limits of the plate 117 relative to the stops 121 in the channels 122.

The valve plate 117 has also defined therein a pair of opposed, here illustratively somewhat ovally shaped, apertures 123. When the plate 117 is rotated so as to be at one end of the channels 122, one aperture 123 is aligned with the spout 111 while the other aperture 123 is aligned with a small air pressure relief orifice 125 defined in the lid 97 in dramatically opposed relationship to the spout 111.

The valve plate 117 has further defined therein a pair of opposed raised detents 124, these detents here generally being centered along a (hypothetical) diameter of the valve plate 117 that extends perpendicularly relative to another (hypothetical) diameter along which the spout 111 and the orifice 125 are generally centered. The undersurface of the lid 97 has defined therein a pair of proposed arcuately extending guideways 120 within which each detent 124 slides as valve plate 117 rotation occurs. At the end of each guideway 120, a somewhat enlarged depression or "pit" is provided. Thus, at the end of each opposite extent of rotational movement of plate 117 relative to lid 97, each detent 124 engages a different "pit" producing a "click" and a positioning for retaining the plate 117 in a

stable position.

To retain the valve plate 117 in association with the lid 97 undersurface, a lid bracket support 126 is provided. The bracket support 126 can have various configurations, but a presently preferred configuration is shown and described here. Thus the bracket support 126 incorporates a pair of diametrically opposed straight cross braces 127 which meet adjacent a central longitudinal axis to define a cylindrical integral body 129 through which a channel 128 is longitudinally defined through which the rod 98 slidably extends and is rotatable. The bracket support 126 further incorporates a pair of concentrically arranged circular braces 131 and 132 that join the cross braces 127 at locations of cross over. The opposite ends of each cross brace 127 each have defined thereat an integral snap fitting 134. At 90° intervals along the inside surface of the side wall of the lid 97 a connector 135 is integrally formed. Each connector 129 is adapted to engage and snap fit around and over portions of a different snap fitting 128. When the bracket support 126 is axially advanced into the interior of the lid 97, the snap fittings become engaged with the connectors 129, thereby holding and fixing the position of the bracket support 126 across the interior of the lid 97.

To maintain the valve plate 117 against the under surface of the lid 97, a coiled compression spring 136 is positioned over the rod 98 with one end of the spring 136 resting against adjacent surface portions of the support 126 and the other end of the spring 136 resting against adjacent surface portions of the valve plate 117. The spring 136 is assembled with the components at the time when the support 126 is connected with the connectors 135, and becomes yieldingly compressed as the assembly proceeds. The diameter of the spring 136 is such that one end of the spring 136 resides within a circular flange defined on the undersurface of the valve plate 117 and the other end of the spring 136 is received into pocket areas defined in the support 126. To prevent the spring 136 from binding, a washer 139 is located against the under surface of the valve plate 117 adjacent the spring 136.

The valve plate 136 is provided on its upper surface with a circular ridge 137 that extends about the perimeter of the central depression 138 in valve plate 117. As the valve plate 117 rotates, it rides on the ridge 137 which itself rests

upon axially adjacent undersurface portions of the lid 97.

As shown in Fig. 23, the handle 99 is optimally provided with a removable friction-fitting insert 140, upon which a company name or other indicia can be imprinted.

As those skilled in the relevant arts will appreciate, numerous structural and functional modifications and adaptations may be made in the structures of the present invention without departing from the spirit and scope of the invention.